

2AL RESOURCE TECHNICAL REPORT,
NER RANCH PROPERTY, PALA AREA
SAN DIEGO COUNTY, CALIFORNIA

(ENVIRONMENTAL LOG NO. _____)

3810-06-002 (SP), 3800-06-009 (GPA), 3600-06-011(R)
3100-5508 (TM), 3300-06-016 (MUP),
3500-11-007 (S) 3000-06-040 (AD),
3910-0602020 (ER)

Prepared for:

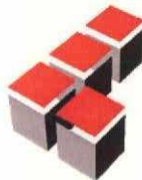
**COUNTY OF SAN DIEGO,
DEPARTMENT OF LAND USE**

c/o Affinis
847 Jamacha Boulevard
El Cajon, California 92019-3206

Project No. 042453-0012

February 15, 2011

(Revised January 22, 2013)



Leighton and Associates, Inc.

A LEIGHTON GROUP COMPANY

SDC PDS RCVD 08-22-13
SP06-002, GPA06-009, R06-011,
TM5508, P06-016, S11-007, AD06-040



Leighton and Associates, Inc.

A LEIGHTON GROUP COMPANY

February 15, 2011

(Revised January 22, 2013)

Project No. 042453-0012

To: County of San Diego Department of Land Use
c/o Affinis
847 Jamacha Road
El Cajon, California 92019-3206

Attention: Ms. Marcia Adams

Subject: Mineral Resource Technical Report, Warner Ranch Property, Pala Area of San Diego County, California (Environmental Log No. _____)

3810-06-002 (SP), 3800-06-009 (GPA), 3600-06-011(R) 3100-5508 (TM), 3300-06-016 (MUP), 3500-11-007 (S) 3000-06-040 (AD), 3910-0602020 (ER)

In accordance with your request, we have performed a review and prepared this Mineral Resource Technical Report for the Warner Ranch property located in San Diego County, California. This report has been prepared for the County of San Diego, per the County of San Diego Land Use and Environment Group's Guidelines for Mineral Resource Technical Report Format and Content requirements.

If you have any questions regarding our report, please contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

Michael R. Stewart, CEG 1349
Vice President/ Principal Geologist
(County Approved Mineral Resource Consultant)

Distribution: (1) Addressee

TABLE OF CONTENTS

<u>Sections</u>	<u>Page</u>
1.0 EXECUTIVE SUMMARY	1
2.0 INTRODUCTION.....	2
2.1 Purpose and Scope	2
2.2 Project Location and Description	33
3.0 EXISTING CONDITIONS.....	88
3.1 Topographic Setting.....	88
3.2 Mineral Resource Potential.....	88
3.2.1 Acorn Park Reservoir Excavation.....	99
3.2.2 Pala Mine.....	1010
3.2.3 Fenton Sand Mine.....	1010
3.2.4 Pankey Pits/Pankey Ranch	1010
3.2.5 Pala Pegmatite District.....	1111
3.3 Geology	1111
4.0 MINERAL RESOURCE IMPACT ANALYSES	1212
4.1 Methodology for Determination of Significance.....	1212
4.1.1 Marketability and Minimum Dollar Value.....	1212
4.1.2 Land Use Compatibility	1212
4.2 Conclusions.....	1313
4.2.1 Significance of Impacts.....	1313
4.2.2 Mitigation Measures and Design Considerations.....	1414
5.0 REFERENCES AND COMMUNICATIONS.....	1515

FIGURES

- FIGURE 1 - SITE LOCATION AND INDEX MAP - PAGE 5
 FIGURE 2 - PROPOSED DEVELOPMENT PLAN - REAR OF TEXT
 FIGURE 3 - LAND USAGE MAP - REAR OF TEXT
 FIGURE 4 - MINERAL RESOURCE ZONES - REAR OF TEXT
 FIGURE 5 - SITE GEOLOGIC MAP - REAR OF TEXT
 FIGURE 6 - LAND USE COMPATIBILITY MAP - REAR OF TEXT
FIGURE 7 - IMPACTED MRZ-2 DEPOSITS - REAR OF TEXT



1.0 EXECUTIVE SUMMARY

In accordance with your request and authorization, this report presents the results of our review and assessment of the mineral resources for the approximately 5143.49-acre Warner Ranch property in the Pala area of northern San Diego County. This report has been prepared for the County of San Diego, per the County of San Diego Land Use and Environment Group's Guidelines for Mineral Resource Technical Report Format and Content requirements. The scope of services included review of the site location relative to the current Mineral Resource Zonation (MRZ) and designations per the California Surface Mining and Reclamation Act (SMARA) of 1975.

Topographically, the site generally consists of a moderately sloping hillside terrain consisting of two valleys gently sloping towards the San Luis Rey drainage basin to the south. Granitic rock outcrops dominate the elevated areas at the site. The lower elevations include accumulations of floodplain deposits that include loose sands and gravels, related to the San Luis Rey drainage area. In these areas, adequate information indicates that significant mineral deposits are present or it is judged that there is a high likelihood for their presence. Accordingly, the State of California Geologist has designated the alluvial portions of the site as a MRZ-2 area. The sloping hillside areas of the site consist of granitic rock with older alluvium infilling some of the onsite drainages. These portions of the site have not been designated as MRZ areas.

Successful sand and gravel mining operations are well documented along the San Luis Rey drainage, and at least 5 sites have historically been mined within 2-3 miles of the Warner Ranch property. All but one (the Pankey Ranch/Rosemary Mountain site) have been terminated when they ceased to be economically viable. Currently, no Major Use Permit, S-82, or General Plan Designation 24 or 25 are located adjacent or within the project. More recently surrounding land uses have evolved to include small residential developments, as well as the Pala Casino. Each of these relatively new developments may be ultimately incompatible with mining. The County documents state that for sites with a buffer of less than 1,300 feet from existing developments, potential mining is not likely to be permitted due to potential impacts.

One of the conclusions of this report is that the Warner Ranch ~~site~~ site includes a potentially recoverable, and marketable supply of aggregate material. This area is generally greater than 1,300 feet from existing developments and as such potentially recoverable. With development of the Warner Ranch project, this potential resource will be effectively lost unless mitigated in part prior to or in conjunction with the site development.



2.0 INTRODUCTION

2.1 Purpose and Scope

In accordance with your request and authorization, this report presents the results of our review and assessment of the mineral resources for the ~~approximately~~ 5143.49-acre Warner Ranch property in the Pala area of northern San Diego County. The scope of services included:

- A review of in-house geotechnical reports and aerial photographs pertinent to the area (Appendix A).
- A reconnaissance of the site.
- Review of the site location relative to the current Mineral Resource Zonation (MRZ) and designations per the California Surface Mining and Reclamation Act (SMARA) of 1975.
- Preparation of this report summarizing the results of our technical study, including:
 - A discussion of the MRZ's located on, adjacent, and within the vicinity of the project site.
 - A discussion of all mine; quarries, and gemstone deposits (both historic and existing) within the vicinity of the project.
 - A discussion of the regional and local geologic setting as it pertains to any mineral resources identified.
 - Analysis of on-site and off-site impacts to the mineral resource, including indication of whether any mineral resources on the project would be minable, processable, and marketable in the near future.
 - A discussion of the economic value and significance of any impacts (if present) considering land use compatibility with the proposed project.
 - A discussion of any appropriate mitigation measures and project design considerations.



2.2 Project Location and Description

The property is generally located north of Pala Road (SR76) and west of the property owned and operated by the Pala Band of Mission Indians, approximately 5 miles east of Interstate 15 (Figure 1). The Warner Ranch Land Plan as it currently exists proposes to develop a community integrating residential, recreational and open space land uses. The attached Figure No. 2 shows the proposed site development.

The Warner Ranch Project would require a General Plan Amendment (GPA), Specific Plan, Rezone, and Vesting Tentative Map to develop 513.6 acres with residential uses and associated facilities.

General Plan Amendment and Rezone. Currently, the site is subject to the General Plan 1.3 Estate Development Area (EDA) Regional Category. The existing land use designation is 18 (Multiple Rural Use) and 19 (Intensive Agriculture), with a density of 1 dwelling unit (du) per 2 and 4 acres. Existing Zoning is A70 (Limited Agriculture, with a minimum lot size of 2 acres) and A72 (General Agriculture Uses).

Specific Plan. The Project is proposing a Specific Plan and associated General Plan Category change to 21 (Specific Plan Area or SPA, with a proposed density of 2.33 du/ac) and zoning to S88 (Specific Plan with a 1.52 dwelling unit per acre density).

Vesting Tentative Map. The VTM would allow development of the property with the following:

780 residential units (556 single family detached, with a minimum lot size of 2937 sq ft) and 224 multi family and attached townhomes)

10.97 acres of private/community parks, including a clubhouse

5.6 acres of landscaped areas

A 2.87-acre active public recreational park

333.56 acres of preserved open space

A 220,000 GPD on-site packaged plant for wastewater treatment

A 10,000 sq ft fire on-site fire station which would share a 24 foot wide shared driveway with the fire station

The project area would be accessed by a central entry road that would be constructed north of SR 76. An all-way traffic signal would be installed at the intersection. The project would also make frontage improvements to the existing 120 foot wide Pala Road/SR 76 easement.



These would include widening the existing 24 foot wide pavement to 52 feet, two 12 foot wide drive lanes, a 12 foot wide painted center median, and 8 foot wide shoulders that also include a painted bike lane in each direction. Additionally, a 350 foot long and 12 foot wide acceleration/deceleration lane is proposed adjacent to the project's main entry.

Earthwork quantities for on-site development are anticipated to consist of 2.4 million cubic yards of cut and 2.8 cubic yards of fill material.

The project would be implemented in phases. The key aspect of the phasing plan for the SPA is the provision of water, sewer, and fire protection services to support the land uses. Seven subareas are defined through allocated dwelling units which have been coordinated with the necessary infrastructure and facility improvements. Required improvements include water storage reservoirs, water pipelines, a wastewater treatment facility, public and private roadways, drainage improvements, and private and public park facilities.

At the present time, the subject property is not within designated water or sewer districts. Part of the site is within the Rainbow Municipal Water District (RMWD), but it is not willing to serve the Project. Instead, the project would de-annex from the RMWD and annex into the Yuima Water District (YWD); this would also require a modification to the County Water Authority (CWA) boundary. To meet needed expansion of sewer and water treatment distribution systems, the Project would include two water reservoir tanks in the northeastern portion of the site, and it would connect to a major water line that is proposed in the vicinity of the site's northern boundary. A wastewater treatment plant is also proposed to be constructed on-site, adjacent to SR 76.

The project area is within County Service Area (CSA) 135, and the fire station would be constructed on-site fronting SR 76. To meet fire safety requirements, two emergency access roads would be on the eastern and western site boundaries, also accessible from SR 76. Another secondary access road would link the property to Pala/Temecula Road to the east. The 25 foot wide road bed and associated fuel modification zone would be aligned along an existing dirt road which runs through the northeastern portion of the site to Pala/Temecula Road. Fuel modification zones will also be included adjacent to the development areas, outside of the biological open space to be preserved.

The proposed Warner Ranch Project is located in the unincorporated area in the northwestern portion of San Diego County, approximately five miles east of Interstate 15 on Pala Road (State Route (SR 76) (Figure 1). It is just west of Pala Temecula Road in the Pala Pauma Subregional Planning Area (Figures 1.38 and 1.39). It includes Assessor's Parcel Numbers (APNs) 110-021-09 and 10; 110-090-01, -17, -18; 110-021-32; and 110-040-22.

The Project is intended to provide a range of workforce housing opportunities consistent with the Job/Housing Balance goals and policies of the San Diego County General Plan. The recently adopted General Plan and associated Pala/Pauma Community Plan provides for the implementation



of this project by designating this 513.49-acre property as a Special Study Area (SSA). The SSA requires a focused land use planning analysis "to determine the most compatible and consistent land uses for the property". The designation has required additional planning studies intended to address the unique character of the site and surrounding area as well as address property constraints to allow for the creation of a "cohesive and comprehensive land use plan", the Warner Ranch Project proposes a General Plan Amendment, Specific Plan, Rezone Administrative Permit (for gated access) and Vesting Tentative Map to develop 513.49 acres with 780 residential units and associated public and private facilities and services. Figure 2 shows the proposed development plan. The following is a summary of the proposed project:

- The project area consists of 780 residential units (534 single family detached, with lot size ranging from 3,000 sq. ft. 8,000 sq. ft., and 246 multi-family and attached townhomes)
- 7.69 acres of private neighborhood parks, clubhouse, and pool
- 14.63 acres of privately maintained landscaped areas
- A 4.23-acre public park (active recreational uses)
- 358.77 acres of preserved open space
- A Fire Station (10,000 sq. ft.)
- Public and private community facilities would include sewer pumps, drainage structures, utility vaults, etc. Additionally, a water reservoir would be constructed on the western portion of the property. The reservoir would receive water from an existing 8-inch water line in Jeremy Way that is maintained by the Rainbow Municipal Water District (RMWD). Water would then be distributed to the project via a 12-inch line which is connected to the water reservoir.
- Off-site improvements would include frontage improvements and a signalized intersection at the project entry and SR 76 as well as signalized improvements to the existing SR 76 and Cole Grade Road intersection. In order to provide the water reservoir on-site, approximately 3000 linear feet of 8-inch diameter pipeline would be constructed from the terminus of the existing line in Jeremy Way to the property's northern boundary line. Additionally, a 6-inch force sewer main would run from a new pump station on the southwestern boundary of the site, to the west within the right-of-way for SR 76, where it would ultimately connect to another new pump station to be provided by the RMWD.

The project area would be accessed by a central entry road at its current intersection with SR 76, where a signalized intersection is required. The project would also make frontage improvements to the existing 120-foot wide Pala Road/SR 76 easement. These Improvements include widening of the existing 24-foot wide pavement to 52 feet, two 12-foot wide drive lanes, a 12-foot wide painted center median, and 8-foot wide shoulders that also include a painted bike lane in each direction.

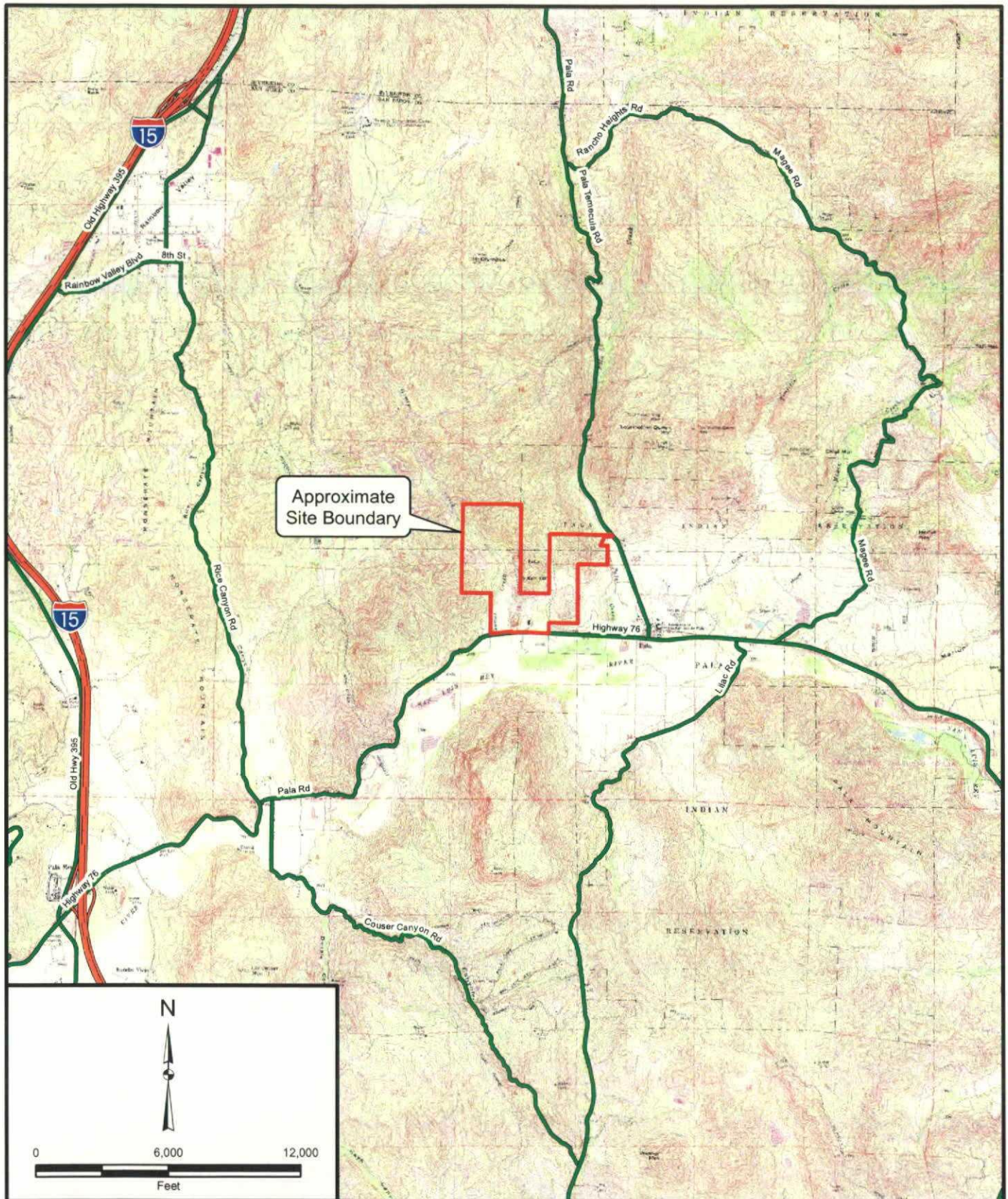


Additionally, a 350-foot long and 12-foot wide acceleration/deceleration lane is proposed adjacent to the project's main entry.

Earthwork quantities for on-site development are anticipated to consist of 2.3 million cubic yards of cut and 2.3 cubic yards of fill material. The proposed grading will be balanced with no import or export of materials.

The project would be implemented in phases. Major facilities such as the proposed fire station, water storage reservoir, forced sewer line, frontage improvements, drainage improvements, and public park, are intended to be constructed as a part of the initial phases of the project.





Project: 042453-002	Eng/Geol: MRS
Scale: 1" = 6,000'	Date: January 2013

Base Map: ESRI Resource Center, 2010
Thematic Info: Leighton
Author: (mmurphy)

SITE LOCATION MAP

Warner Ranch
Pala Area, Unincorporated
San Diego County, California

Figure 1



Leighton

3.0 EXISTING CONDITIONS

3.1 Topographic Setting

The site is located within the coastal subprovince of the Peninsular Ranges Geomorphic Province, near the western edge of the southern California batholith. The topography at the edge of the batholith changes from the rugged landforms developed on the batholith to the more subdued landforms, which typify the softer sedimentary formations of the coastal plain. Primarily, the site is underlain by the Cretaceous-aged granitic rock of the southern California batholith. Erosion and regional tectonic uplift created the valleys and ridges of the area.

Topographically, the site generally consists of a moderately sloping hillside terrain consisting of two valleys gently sloping towards the San Luis Rey drainage basin to the south. Elevations range from a high of approximately $500 \pm$ feet mean sea level (msl) along the eastern side of the site to a low of $350 \pm$ feet (msl) along the southerly site boundary. Granitic rock outcrops dominate the elevated areas at the site.

Generally, natural drainage is presently accomplished through a pair of broad canyons that drain in a southward direction towards the San Luis Rey River to the south, on the opposite side of the Pala Road (SR76) alignment. Vegetation on the site ranges from native grasses and weeds in the relatively flat areas canyon bottoms to moderate to thick chaparral on the upper elevations. The attached Figure 3, Land Usage Map shows the current site conditions.

3.2 Mineral Resource Potential

As mandated by the Surface Mining and Reclamation Act of 1975, the California State Mining and Geology Board classifies California mineral resources with the Mineral Resource Zones (MRZs) system. These zones have been established based on the presence or absence of significant sand and gravel deposits and crushed rock source area, e.g., products used in the production of cement. The classification system emphasizes Portland Cement Concrete (PCC) aggregate, which is subject to a series of specifications to ensure the manufacture of strong durable concrete. The following guidelines are presented in the mineral land classification for the region (CGS, 1982 and 1996b).

- MRZ-2 - Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence.
- MRZ-3 - Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4 - Areas where available information is inadequate for assignment to any other MRZ zone.



The extent of zones classified as MRZ-2 on the Warner Ranch site and vicinity are identified on the Figure 4 (Rear of Text). It generally corresponds to the San Luis Rey drainage area, which includes a relatively thick accumulation of younger alluvial deposits, with an irregular, organic boundary defined by the low-lying topographic drainage margin. Geologically, this area is generally characterized by the presence of younger (Quaternary-aged) river channel, floodplain, and terrace deposits that have been eroded from the older (Tertiary to Cretaceous-aged) bedrock units, transported, and re-deposited. They consist of naturally loose mixtures of sands and rounded gravels. The greater San Luis Rey River Valley has been identified as a resource area that contains an estimated 1.6 billion tons of sand and 1.2 billion tons of coarse aggregate through the 14,607 acre drainage basin (CGS, 1982). The Sector D, which extends onto a portion of the site, is a 3,740 acre area mapped between the Pauma Valley on the upstream end, to the Interstate 15/Highway 395 corridor on the downstream end. The DMG estimated 770 million tons of quality aggregate resources in Section D, including 480 million tons of sand and 290 million tons of gravel (CGS, 1982). The site and vicinity fall within the Sectors D and E of the San Luis Rey River aggregate resource sector (Figure 4).

The boundary (higher elevation) areas of the site are not currently mapped as a MRZ area. Generally, this area geologically consists of the older bedrock units, including the crystalline and metavolcanic rocks that are mapped over nearly two thirds of the San Diego County.

Although site-specific laboratory testing has not confirmed the physical and chemical characteristics of the on-site alluvial deposits are appropriate for PCC-grade aggregate, successful sand and gravel mining operations are well documented along the San Luis Rey drainage. Documented historical aggregate extraction operations are identified on Figure 4 and all but one (the Pankey Ranch/Rosemary Mountain site) have been terminated when they ceased to be economically viable, as described below:

3.2.1 Acorn Park Reservoir Excavation

The closest documented extraction was the lake or reservoir constructed by the Pala Indian Tribe across the border with the Reservation at the Acorn park, immediately south of the SR76 on the north side of the San Luis Rey river (Chester, 2000). The sand was sold as a byproduct of the reservoir construction, performed by the Valley Materials and Supply Company (CGS, 1996). The construction was evidently conducted without U.S. Army Corps of Engineers permits. This operation as well as the construction of portions of the Pala Casino resulted in illegal discharges of dredged and fill material into the San Luis Rey River, and settlements between the EPA and the Pala Indians have been recently reached (USEPA, 2006).



3.2.2 Pala Mine

Further to the northeast, the Conrock Company historically excavated fanglomerate material, along Magee Creek, approximately 2 miles to the east-northeast of the Warner Ranch property. This area is known as Sector E by the California Division of Mines and Geology and is considered part of the San Luis Rey aggregate resource but a different geologic map unit from the greater river drainage (CGS, 1982). This resource was later mined by the Calmat Company (CGS, 1996) and was ultimately purchased by Vulcan Materials in 1999. The extraction activities at the Vulcan Materials Pala plant were terminated in late 2004 (CRWCCB, 2006). The Vulcan company exhausted the available supplies at the 300 acre mine and the site was remediated (recontoured and revegetated) by Vulcan in 2005 (NCT, 2005).

3.2.3 Fenton Sand Mine

Approximately 3/4 mile to the southwest of the Warner Ranch site is the Fenton Sand Mine which originated as a 27 acre sand mine initially permitted in 1969 (Chester, 2000). In 1975 a 30-year Major Use Permit (74-088) was granted to allow extraction from an expanded 211-acre area. It was operated by the H.G. Fenton Company (CGS, 1983) through November of 1998, when Hanson Aggregates assumed responsibility of the operation. They continued to mine and process sand and gravel from the 10331 Pala Road address through 2000. The discovery of endangered species in areas bordering the operation, including the Arroyo Toad, the Least Bell's Vireo, and the Southwestern Willow flycatcher, evidently limited Hanson's ability to expand the mine (Chester, 2000). Hanson closed the sand and gravel processing plant as of September 15, 2005 (CRWCCB, 2006). Although the plans for long-term usage of the site have been debated, the site does include a 207-acre conservation easement established by Hanson in accordance with their Clean Water Act Section 404 permit. The site has therefore been adopted back into the San Luis Rey fluvial ecosystem as overseen by the U.S. Fish and Wildlife Service, the Army Corps of Engineers, and the California Department of Fish and Game.

3.2.4 Pankey Pits/Pankey Ranch

Figure 4 includes another site at the far southwestern corner, approximately 2 miles southwest on the SR 76 from the Warner Ranch site. This property was originally known as the Pankey Pits, where the Marron Brothers extracted sand and gravel from the San Luis Rey river drainage (CGS, 1983). Like many in-stream operations, permitting processes and regulations became increasingly



difficult, and the site was entirely inactive by the early 1990's (CGS, 1996). However, an adjacent parcel known as the Pankey Ranch was acquired by Palamar Aggregates in 1997. The Granite Construction Company has since partnered with Palomar on the project, currently known as Rosemary's Mountain. Plans for the rock crushing, extraction of aggregate and operation of an asphalt plant on 38 acres of the 94-acre site are in progress (NC Times, 2007).

3.2.5 Pala Pegmatite District

It should be noted that the Pala Pegmatite District is a world famous area, consisting of approximately 13 square miles of gem and lithium minerals emplaced in gabbroic rock. This area begins on the opposite side of the Pala-Temecula Road (S16) approximately 1-1/2 miles northeast of the Warner Ranch site (Weber, 1958-59). Although minor pegmatites have been mapped in rocks adjacent to the Warner Ranch site, the likelihood of significant mineral prospects is considered very small. No known prospects have occurred on the Warner Ranch despite the many years of prospecting that has taken place in and around the Pala district.

3.3 Geology

Based on our site visit and review of our referenced geologic maps (Appendix A), the primary bedrock unit onsite is Cretaceous-aged Granitic rocks. As shown on Figure 5, the slopes areas west, east, and north through the central portion are comprised of granodiorite, tonalite, and gabbro, with some meta-volcanic units. Alluvial (floodplain) and colluvial (slopewash) deposits are mapped in the lower lying valley bottom that makes up much of the site. These younger alluvial deposits roughly correspond to the MRZ-2 area identified by the DMG. Based on site specific geologic mapping performed by others (Geocon, 2009), the younger alluvial deposits encompass a slightly larger footprint than previously mapped (Figure 4). The areas mapped as older alluvial soils and colluvium have typically been shown to have too many fines and are not suitable for extraction.

The extent of minable aggregate material in the form of younger alluvial deposits are constrained by the location of the Pala Road (SR-76) alignment to the south and the elevated granitic outcrops to the north, west, and east (Figure 5).



4.0 MINERAL RESOURCE IMPACT ANALYSES

4.1 Methodology for Determination of Significance

Considering the site characteristics described above, their significance is measured against the County of San Diego Department of Land Use Guidelines (DPLU, 2007). These are based on the State CEQA Guidelines, and establish a measurable standard for determining when an impact will be considered significant pursuant to CEQA.

4.1.1 Land Use Compatibility

The remaining guideline for significance determination involves whether or not the deposit is minable or compatible under with the present conditions, or conditions estimated to exist within a 50 year time-frame. In order to be minable, it must be considered compatible with existing land uses, and land uses projected along the 50-year future time line.

The Warner Ranch property is located immediately adjacent to the Pala Reservation. As shown on Figure 2, surrounding land uses include the Pala Casino, and the residential community to the east. In addition, single-family residences are situated on the elevated hillsides 1,700 to 2,000 feet west-northwest of the site. In order to provide an adequate buffer to achieve separation from noise and dust, a separation of 1,300 feet is typically utilized. Figure 6 illustrates those portions of the site that are within areas where a 1,300 foot buffer would apply. Based on our analysis, roughly 3 acres of MRZ-2 material (Qal) in the easterly canyon is already effectively lost because it is within a 1,300-foot buffer zone of adjacent developments. When the development is completed, the remainder of the eastern canyon as well as the western canyon will all be lost to possible future mining efforts. The amount of onsite land of MRZ-2 quality that will be permanently lost as a result of the project is estimated at 57.8 acres. In addition, another approximately 41 acres of offsite land of MRZ-2 quality will also effectively be lost after completion of the project.

4.1.2 Marketability and Minimum Dollar Value

The Warner Ranch project includes an area classified as MRZ-2, specifically a tributary to the San Luis Rey drainage. The MRZ-2 acreage includes the area bound by the SR-76 to the south and the elevated granitic bedrock areas to the east, west, and north. This area corresponds to the unit mapped as Alluvium (Qal) on the site geologic map. Total MRZ-2 mapped areas on site consists of a



minimum area of approximately ~~59.8~~ 57.8 acres. For our calculations, we have not included the upper narrow tributaries mapped as alluvium but only the larger mapped deposits. As shown on Figure No. 7, this includes approximately 38.838.2 acres in the western canyon and approximately 2419.6 acres in the eastern canyon.

Exploratory trenches by other (Geocon, 2009) encountered ground water at depths between 12 and 13 feet in the eastern canyon. We have assumed similar ground water depths for the western canyon. For purposes of this report, we have assumed that the presence of ground water will limit economic recovery to this depth. We have also assumed the upper 2 feet will not be suitable due to past agricultural activity and previous site uses. This material would likely need to be removed from the site. This leaves roughly 10 feet of material that is likely suitable for recovery.

Assuming 10 feet of available material, a price of \$20.00 per ton, a density of 0.055 tons per cubic foot and a waste factor of approximately 10 percent a hypothetical mining operation would not have to dig deep to exceed the threshold (\$12,500,00) for a significant impact. Utilizing the above assumptions, we calculate the value of the onsite MRZ-2 mineral resources to be approximately 25 million dollars.

With the same assumptions, the approximate value of off-site MRZ-2 mineral resources that will also be effectively lost after completion of the project is estimated at approximately 18 million dollars.

The attached Figure No. 7 illustrates the areas of MRZ-2 material, both on and both off site, that will effectively be lost after completion of the project.

4.2 Conclusions

4.2.1 Significance of Impacts

~~Under the assumption that the mapped MRZ-2 mineral resource potential of the site has not yet been lost due to the proximity of the Pala Casino and neighborhood development, the site deposits would~~ are ~~be~~ considered to be minable, processable, and marketable as a source of aggregate (sand). Although the quantity would depend on numerous factors, such as the actual ~~rock~~ material quality and purity (waste factor) it would not be difficult to exceed the DMG's minimum \$12,500,000 value for construction materials. Based on our calculations, we estimate the total



value of the minable deposits both on site and off site that will effectively be lost after project completion to be 43 million dollars. When the site is considered relative to the entirety of the San Luis Rey drainage area, it is similar in that is comprised of minable alluvial material. However, no Major Use Permit, S-82, or General Plan Designation 24 or 25 are located adjacent or within the project.

4.2.2 Mitigation Measures and Design Considerations

Based on our analysis, it appears that the alluvial materials that are of MRZ-2 quality on the Warner Ranch are a potentially significant resource that currently could be recovered if the County were to issue a permit for the extraction. This potential resource would be effectively lost once the development is complete and that loss cannot be completely -mitigated.

Potential partial mitigation for this resource would be to extract some of it prior to or in conjunction with the site construction. In addition, as an alternative partial mitigation, a significant portion of the material could be processed and used on site as part of the construction process thereby eliminating the need to impact material from alternate sources. For estimating purposes, we have assumed a 3-inch layer of sand could be utilized on each lot for slab underlayment. This would utilize roughly 13,000 tons of the onsite resource. The onsite sand is also readily available for use as sand shading for utility trench construction. It is our understanding that roughly 35,000 linear feet of water lines are proposed. Utilizing approximate 2-cubic feet per foot an addition 4,000 tons of the onsite resource can be utilized. In total however this is a small percentage of the total of onsite available resources and only provides partial mitigation.



5.0 REFERENCES AND COMMUNICATIONS

- California Geological Survey (CGS) (previously Division of Mines and Geology), 1982, Mineral Land Classification: Aggregate Materials in the Western San Diego County Production-Consumption Region, California, Kohler, S.L. and Miller, R.V. authors, CDMG Special Report 153.
- , 1996a, Geologic Maps of the Northwestern Part of San Diego County, California, Tan, SS, and Kennedy, M.P., authors, CDMG Open File Report 96-02.
- , 1996b, Update of Mineral Land Classification: Aggregate Materials in the Western San Diego Production-Consumption Region, Miller, R.V. author, CDMG Open File Report 96-04.
- , 1997-1998, 1999rev, Mines and Mineral Producers Active in California (1997-1998), CDMG Special Publication 103 (revised 1999).
- , 2000a, Geologic Map of the Pala 7.5' Quadrangle San Diego County, California: A Digital Database, version 1.0, by M.P. Kennedy and S.S. Tan, Preliminary Map Series, Scale 1:24,000.
- , 2000b, Geologic Map of the Pechanga 7.5' Quadrangle San Diego and Riverside Counties, California: A Digital Database, version 1.0, by M.P. Kennedy and S.S. Tan, Preliminary Map Series, Scale 1:24,000.
- , 2000c, California Surface Mining Reclamation Policies and Procedures, CDMG Special Publication 051 (third revision).
- , 2005, Geologic Map of the Oceanside 30'x60' Quadrangle, California, Compiled by M.P. Kennedy and S.S. Tan, Preliminary Map Series, Scale 1:100,000.
- , 2006, Aggregate Availability in California, by Susan Kohler, Map Sheet 52, Originally released 2002, updated December 2006.
- California Regional Water Quality Control Board (CRWQCB), 2006, Order No. R9-2006-0007 – An Order Rescinding Order Nos. 88-67, 94-32, 94-33, 94-62, 94-71, 94-130 and 96-60, John H. Robertus – Executive Officer, dated April 12, 2006.



- County of San Diego, Department of Land Use (DPLU), 2007a, Guidelines for Determining Significance and Report Format and Content Requirements, Mineral Resources, dated July 30, 2007.
- , 2007b, Information Package RE: Warner Ranch; SP06-002; GPA06-009; R06-011; TM5508; P06-016; AD06-040; ER06-02-020; Revised Scoping Letter and Request for Environmental Impact Report, dated August 16, 2007.
- Gecon Inc., 2009, Update Transmittal of Preliminary Geotechnical Information, Project No. 07511-32-01, dated October 29, 2009.
- North County Times, 2005, "Pala Reservation Mine to Close in September" Tom Pfingsten – staff writer, June 2, 2005, http://www.nctimes.com/articlews/2005/06/03/news/inland/-23_12_426_2_05.txt.
- , 2007, "Plans for Rosemary's Mountain Quarry Grinding Along," Tom Pfingsten – staff writer, March 4, 2007, <http://www.nctimes.com/articlews/2007/03/05/news/inland/-3407194833.txt>
- Orange Grove Energy, L.P., 2007, Orange Grove Project, Small Power Plant Exemption (SPPE) Application, Prepared by TRC, Project: 29031902, dated July 2007.
- Schester, Tom, 2000, "The Fenton Sand Mine at Pala," http://la.znet.com/~schester/fallbrook/tidbits/fenton_pala_sand_mine.html, last updated March 24, 2000.
- Shapouri & Associates, Inc., 2007a, Preliminary Draft Plan, Warner Ranch, Preliminary Alignment Study for Pala Road (SR76); 1 Sheet, 1"=500'; dated 05/21/2007.
- , 2007b, Land Plan for Warner Ranch; 1 Sheet, 1"=100', dated 08/07/07.
- Surface Mining and Reclamation Act of California (SMARA) of 1975, California Public Resources Code (PRC), Division 2, Chapter 9, Sections 2710, et. seq.
- United States Environmental Protection Agency (USEPA), 2006, "U.S. EPA settles for \$915,000 with Pala Tribe over San Diego County Water Violations: Release date 11/6/2006, <http://yosemite.epa.gov/opa/admpress.nsf>.
- United States Geological Survey (USGS), 2002, The Mineral Industry of California: 2002 Minerals Yearbook.

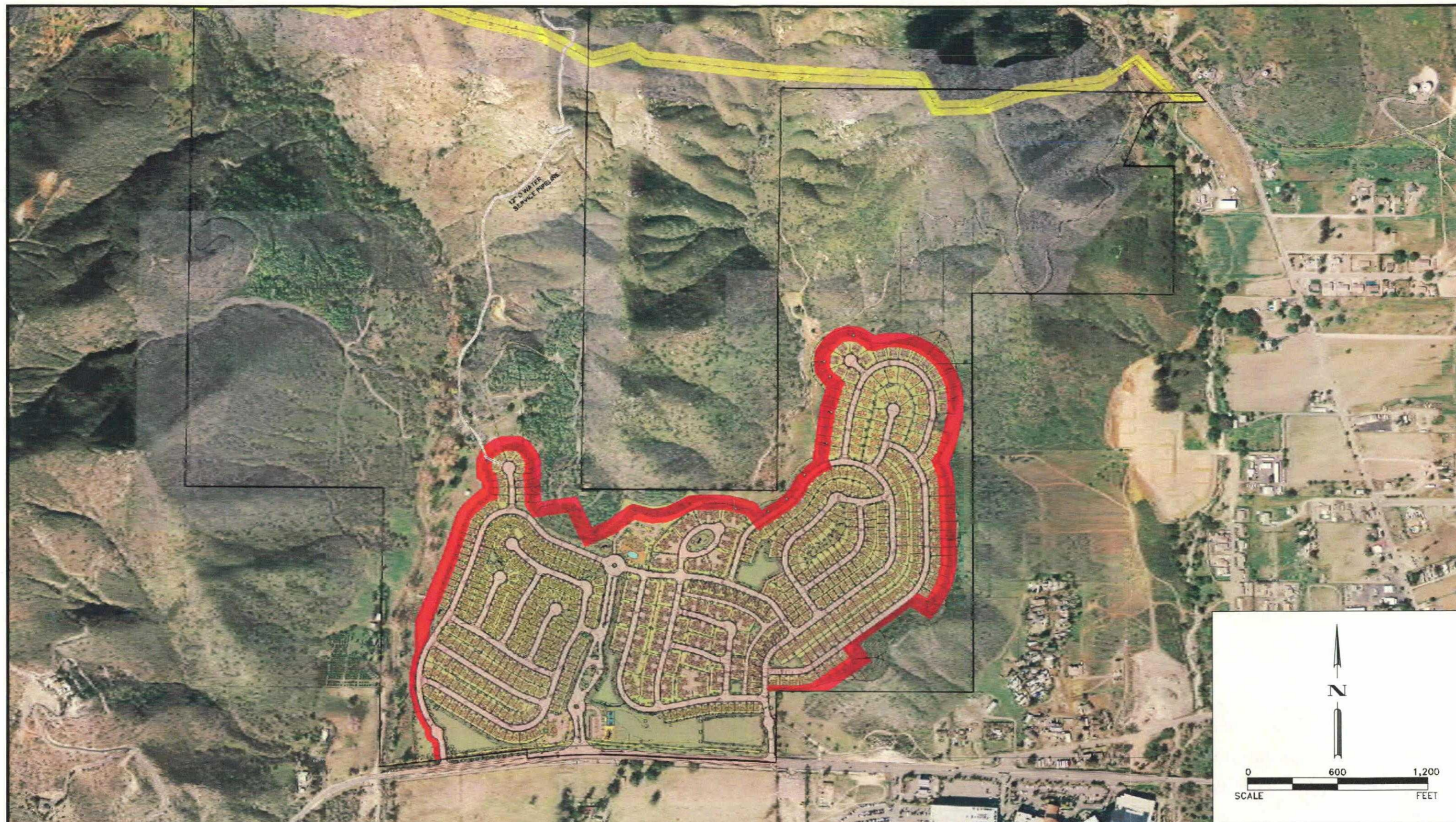


Weber, Harold Jr., 1958-59, Geology and Mineral Resources of San Diego County, California,
Plate 1, Scale 1"=2 miles, dated 1958-59.

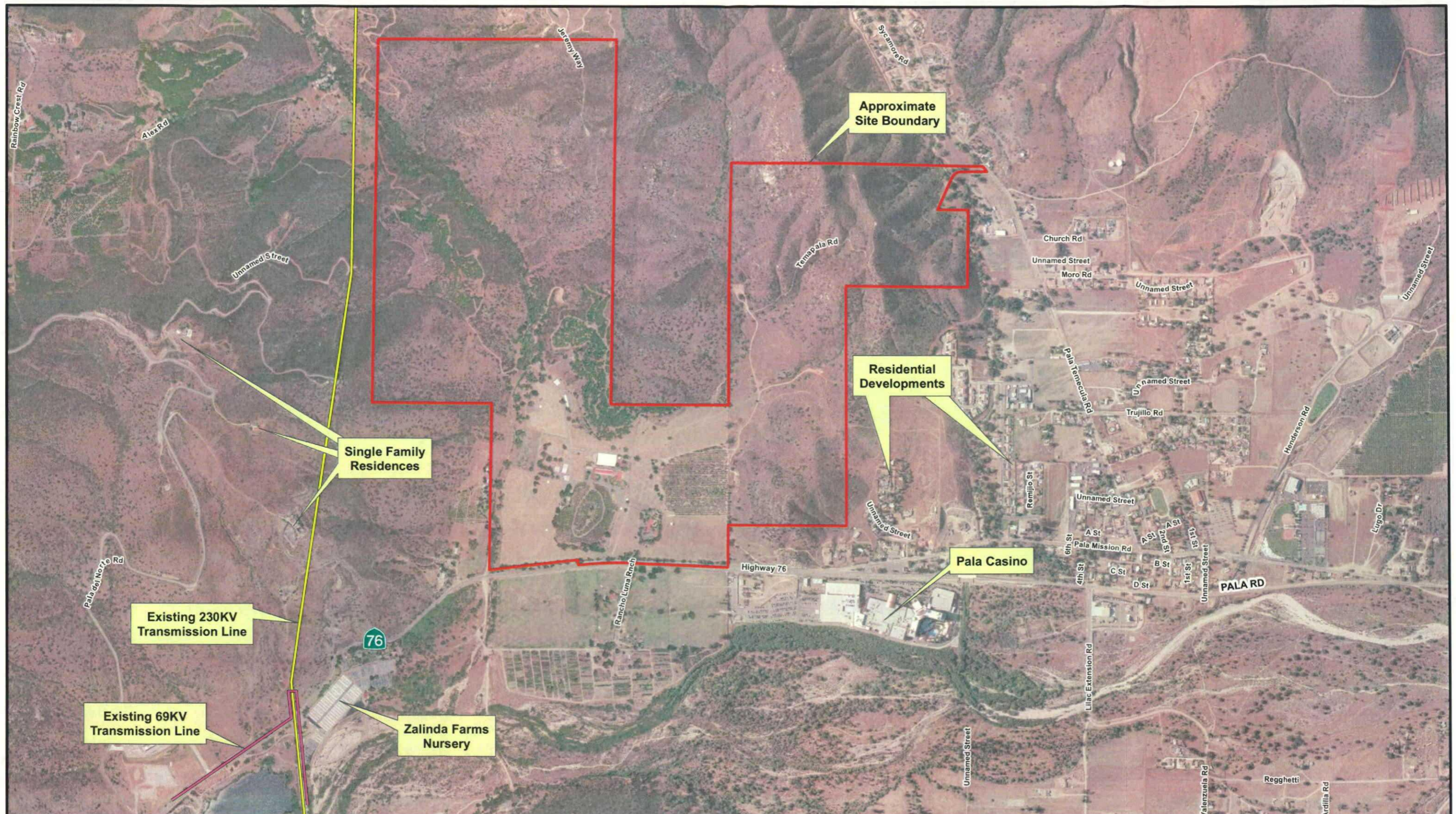
Aerial Photographs


Date	Source	Flight/Scale	Photo No(s)
5/17/53	USDA	AXN-17M/1:20,000	81 and 82
5/17/2006	Aerials Express	Digital Files	N/A

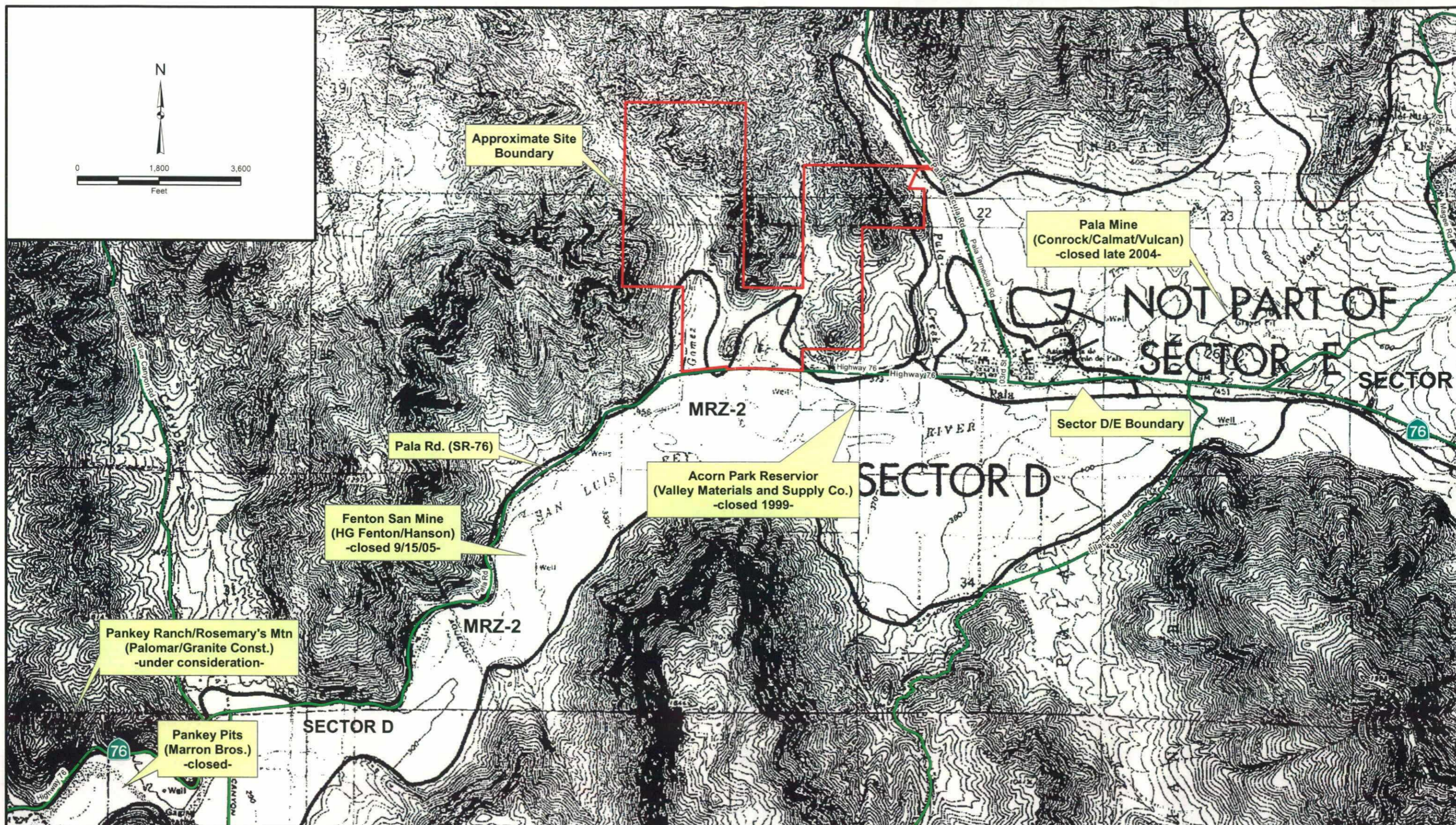




Proj: 042453-002



Project: 042453-002	Eng/Geol: MRS	<div>LAND USAGE MAP</div> <div>Warner Ranch</div> <div>Pala Area, Unincorporated San Diego County, California</div>	Figure 3
Scale: 1 " = 1,000 '	Date: January, 2013		
Base Map: Aerials Express, 2008 Thematic Info: Leighton Author: kthomas (mmurphy)			Leighton



Project: 042453-002

Eng/Geol: MRS

Scale: 1" = 2,000'

Date: January, 2013

Base Map: California Division of Mines and Geology Mineral Land Classification: Aggregate Materials in the Western San Diego Production-Consumption Regions - Special Report 153 (Kohler and Miller, 1982)
Author: mmurphy

MINERAL RESOURCE ZONES

Warner Ranch

Pala Area, Unincorporated San Diego County, California

Figure 4



Leighton



Project: 042453-002

Eng/Geol: MRS

Scale: 1" = 400'

Date: January, 2013

Base Map: ESRI Resource Center, 2011
Site Geology by Geocon, 2009

Author: (mmurphy)

SITE GEOLOGY MAP

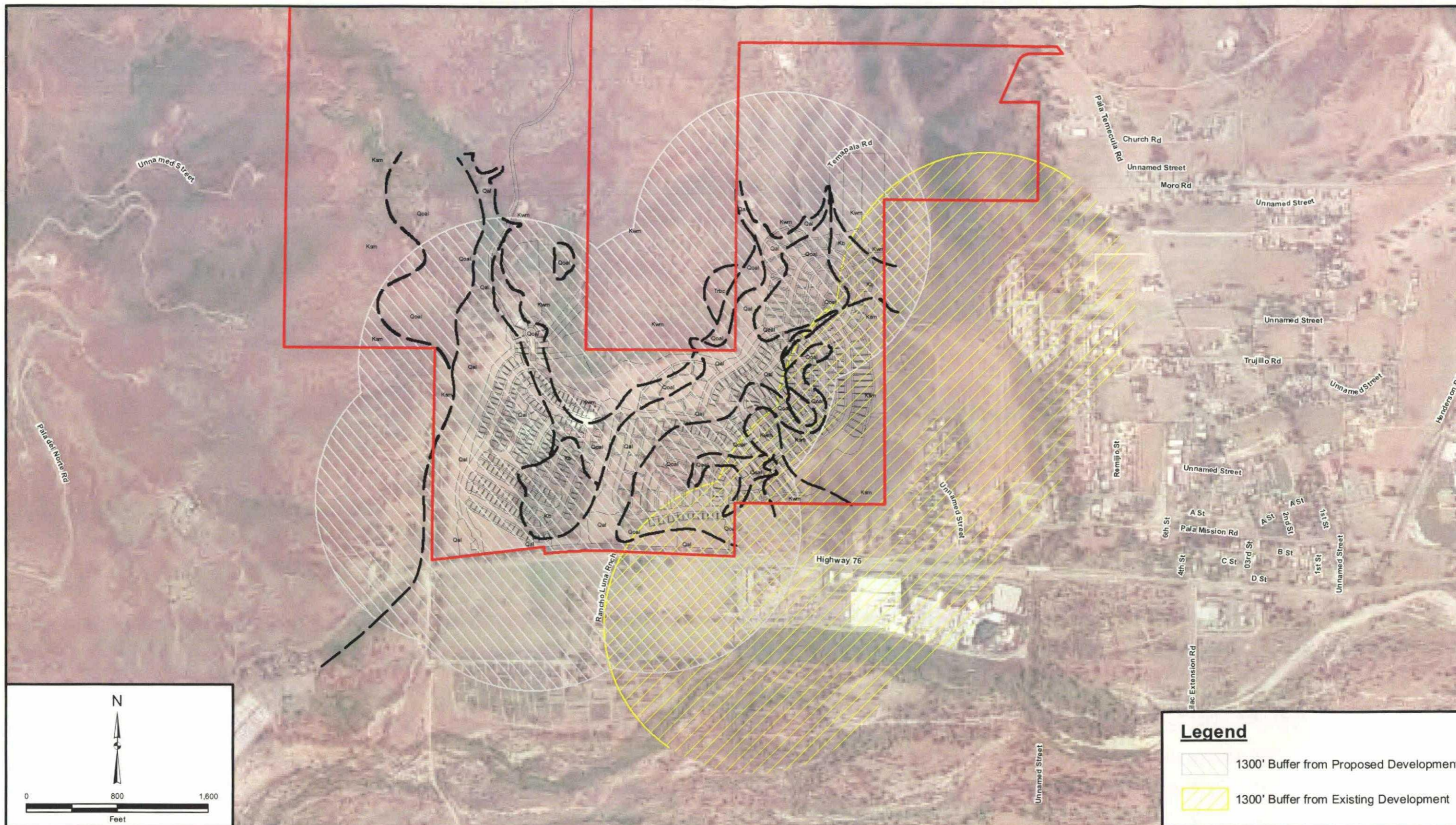
Warner Ranch

Pala Area, Unincorporated San Diego County, California

Figure 5



Leighton



Legend

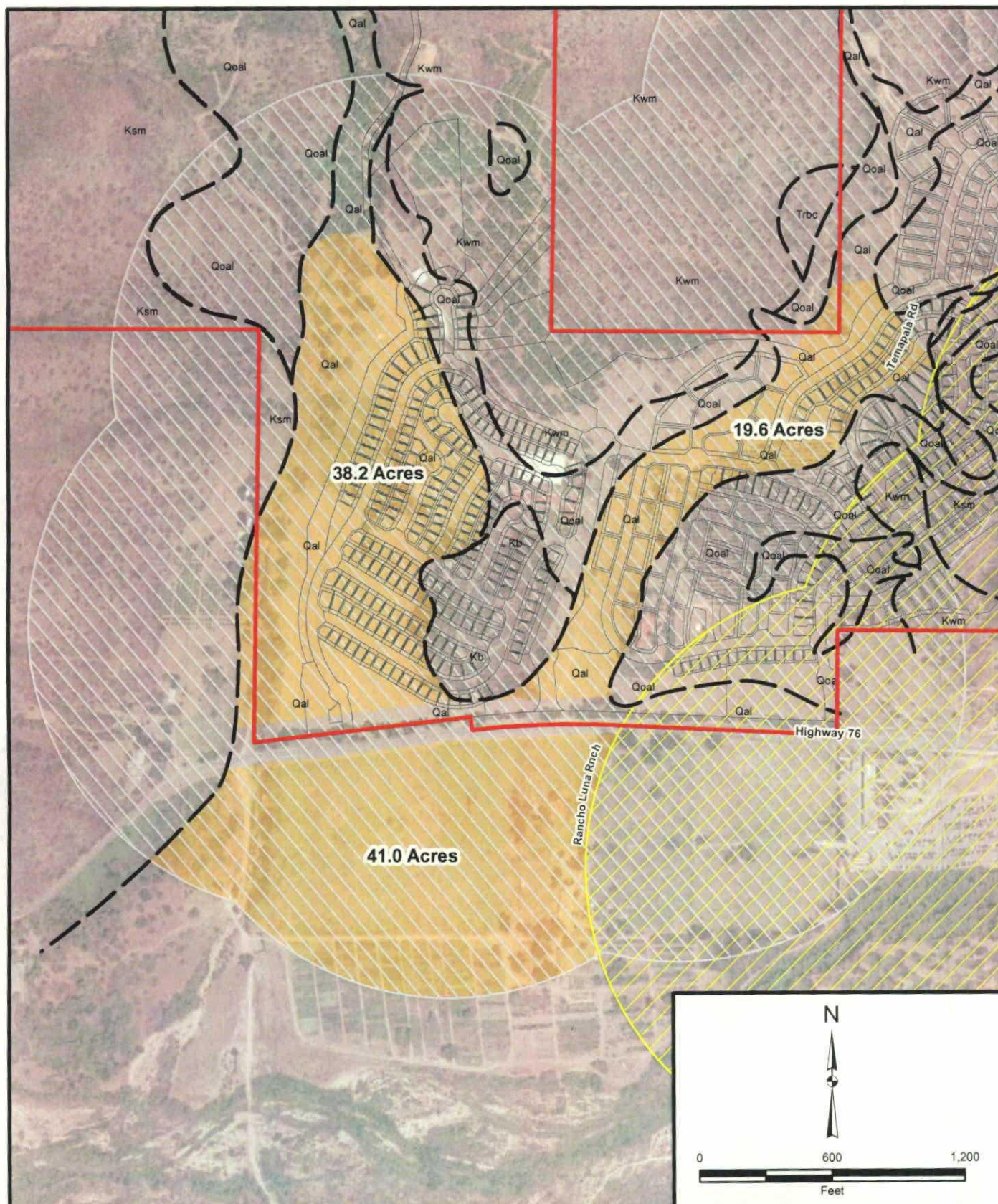
- 1300' Buffer from Proposed Development
- 1300' Buffer from Existing Development

Project: 042453-001	Eng/Geol: MRS
Scale: 1 " = 800 '	Date: January, 2013
Base Map: ESRI Resource Center, 2011 Thematic Info: Leighton Author: (mmurphy)	

LAND COMPATIBILITY MAP
 Warner Ranch
 Pala Area, Unincorporated San Diego County, California

Figure 6

Leighton



Project: 042453-002

Eng/Geol: MRS

Scale: 1" = 600'

Date: January, 2013

Base Map: ESRI Resource Center, 2010
Thematic Info: Leighton
Author: (mmurphy)

IMPACTED MRZ-2 DEPOSITS

Warner Ranch

Pala Area

Unincorporated San Diego County, California

Figure 7



Leighton